

REMARKS

Claims 1, 4, 5, 7, and 9 to 20 were pending when last examined. Applicant has amended claims 1, 9, and 15. Claims 1, 4, 5, 7, and 9 to 20 remain pending in the present application.

Claim Rejections

Claim 1

The Examiner rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over “Pyramidal Implementation of the Lucas Kanade Feature Tracker – Description of the Algorithm” (“Bouguet”), in view of U.S. Patent Application Publication No. 2004/0017507 (“Clayton”) and further in view of “Motion Compensated Image Interpolation” (“Cafforio et al.”). Applicant has amended claim 1, which now recites:

1. A method for producing a slow motion effect on a video including first and second images, the method comprising:

(1) generating a first image pyramid associated with the first image, and a second image pyramid associated with the second image, wherein the first and the second image pyramids respectively comprise a plurality of corresponding image levels of gradual resolutions;

(2) warping a first image level of the first image pyramid with a motion field;

(3) determining a first residual motion field from the warped first image level of the first image pyramid and a corresponding first image level of the second image pyramid;

(4) when the first residual motion field is not less than a threshold, adding the first residual motion field to the motion field and repeating steps (2) and (3);

(5) when the first residual motion field is less than the threshold:

(a) warping a second image level of the first image pyramid with the motion field;

(b) determining a second residual motion field from the warped second image level of the first image pyramid and a corresponding second image level of the second image pyramid;
and

(c) when the second residual motion field is not less than a threshold, adding the second residual motion to the motion field and repeating steps (5)(a) and (5)(b);

(6) when the second residual motion field is less than the threshold and the second image level corresponds to a highest resolution of the first image pyramid, generating an intermediate image between the first and the second images on a pixel-by-pixel basis derived from the motion field;

(7) inserting the intermediate image between the first and the second images in the video to increase the total number of images in the video;
and

(8) playing the video to produce the slow motion effect.

Amended claim 1 (emphasis added). Applicant submits that the cited references do not disclose or suggest applying the recited steps to produce a slow motion effect on a video. In particular, Cafforio et al. discloses inserting intermediate images in a video to substitute for images skipped by a low bit-rate coder. This means the total number of images in the original video and the processed video does not change. When such a video is played back, it would progress normally without any slow motion effect. For this reason, amended claim 1 is patentable over the cited references.

Claims 4, 5, and 7

Claims 4, 5, and 7 depend from amended claim 1 and are patentable for at least the same reasons as amended claim 1.

Claim 9 to 14

Applicant has amended claim 9 to recite similar limitations as amended claim 1. Claim 9 is therefore patentable over the cited references for at least the same reasons as amended claim 1.

Claims 10 to 14 depend from amended claim 9 and are patentable for at least the same reasons as amended claim 9.

Claims 15 to 20

Applicant has amended claim 15 to recite similar limitations as amended claim 1. Claim 15 is therefore patentable over the cited references for at least the same reasons as amended claim 1.

Claims 16 to 20 depend from amended claim 15 and are patentable for at least the same reasons as amended claim 15.

Summary

For at least the above reasons, Applicants respectfully request the Examiner to withdraw the claim rejections and allow all the pending claims. Should the Examiner have any questions, please call the undersigned at (408) 382-0480.

I hereby certify that this correspondence is being transmitted prior to expiration of the set period of time by being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4).

/David C Hsia/
Signature

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Date

Respectfully submitted,

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